

Assessing Watershed Evaluation Criteria by Defining Measures

In order to adequately assess each watershed, a number of measures or attributes are necessary to define the uniqueness of each watershed. The data compilation is enormous and in many instances, unavailable. The future data collection and the subsequent assessment will allow the prioritization of watersheds within each watershed partnership area and among individual watersheds, statewide. The following is a listing of watershed resource criteria and their associated measures.

Aquifer systems:

Sustainable yield indicates the level of high rainfall and recharge areas

Percent sustainable yield permitted and pumped indicates the aquifers importance

Percent of use for potable and non-potable use indicates water use diversity

Presence of contaminants in groundwater wells, indicates impacts of chemical application on land uses and polluted runoff

Level of rainfall gauging, well head monitoring and chloride sampling trends, indicates climatic occurrences and whether wells in the area are being over or under pumped.

Runoff, indicates % of slope, vegetation, soil types, land use

Streams within watersheds:

Number of perennial and intermittent streams & stream segments indicates

Percentage of stream flow used for irrigation/cultural purposes

Number of stream diversions and percentage of stream that is channelized

Identify streams for biological, recreational, cultural values

Water quality of base flow and during storm events

Level of gauging and monitoring

Erosion and Polluted Runoff Control:

Percent of eroded areas versus total watershed management area indicates where revegetation and reforestation efforts should be focused

Presence of Riparian Areas along streams, which filter polluted runoff

Areas identified in the States Polluted Runoff Control Assessments

Areas identified by the Soil and Water Conservation Districts where soil and water conservation plans and methods are applied

Road Construction and Management

Forest Chemical Management Programs

Easement areas underlying overhead power lines where herbicides are applied

Herbicide application for plant eradication

Timber Harvesting Management Measures

Fire control and prevention:

Number and extent of fires in the area

Monitor fire danger rating system

Assess fuel loading capacity

Control of public access

Number of roads maintained for fuel Line? breaks

Animal control:

Scope of fencing to control animals
Public hunting success in controlling animals and seasons
Access to areas and animal availability

Invasive weed control:

Scope of invasive weed population in area
Degree of chemical or mechanical control

Pest and disease detection and control:

Range of pest and disease detection in area
Scope of biological or chemical treatment to control pest and disease

Recreation uses:

Number of hikers
Number of trails established
Number of hunters for hunting opportunities
Number of fishermen for fishing opportunities
Number of people of bird or nature watching
Frequency of campers for camping opportunities

Public education and volunteer programs:

Number of brochures available
Number of permits handed out if applicable
Number of volunteers used to manage watershed
Accomplishments measured by volunteer work

Partnerships and community involvement:

Number of partnerships agreed to manage watershed
Type of public notice and community involvement to manage watershed
Number of sponsorships involved in watershed management
Level of interest of community groups and organizations in watershed management

Based on the above criteria, measures and weighted ranking, a matrix can be used to evaluate the multiple criteria to meet the expressed objective to provide a means of prioritizing critical watersheds and ranking of effective watershed projects. It is recognized that for many areas, additional data will be needed for analysis but believes this framework can be useful for future watershed planning, where appropriate (e.g. Koolau Watershed Partnership).

Criteria for Project Areas

- Area overlies or contributes to recharge of an important aquifer, stream or near-shore ecosystem

- Area has perennial or intermittent streams
- Area is important or potentially important as a source or contributor to a source of water
- Area retains some native Hawaiian biota
- Area is sensitive or in need of protection or of restoration

Criteria for Project Need

- Project contributes to the protection and management of critical water resources (aquifers, streams, near-shore environments, et
- Project enhances, protects or restores native biota
- Project involves measures to mitigate or eliminate erosive impacts
- Project involves measures to prevent, control or mitigate fire damage
- Project involves measures to control or eliminate invasive plant or animal species
- Project involves management or control of pathogenic organisms or diseases detrimental to the ecosystem
- Project involves prevention, control or mitigation of possible pollutant impacts
- Project involves management of recreational or other uses in such a way that the subject area is protected
- Proposal includes clear deliverables, accomplishments, or goals, as well as a means to evaluate implementation through either benefit derived, or quantifiable protective action taken
- Partnership, community support and involvement, voluntarism, public outreach and educational programs may enhance project eligibility.
- Support or restoration of traditional Hawaiian uses or protection measures may enhance project eligibility.
- If the project involves community-based stewardship, application should address any measures that may help insure that the project or its benefits will continue beyond the life of the funding.

Criteria for Applicant Eligibility

- Applicants must demonstrate technical and financial ability to perform the work;
- Applicants must demonstrate that with the proposed funding they will be able to complete the work proposed, or that they have secured any additional funds necessary to complete the work, or convincingly demonstrate that they are able to secure adequate funds to complete the work proposed
- Applicants must have a valid tax id, 501(c)(3) certification, or employer id number, and be set up to accept and manage the funds requested.